

***DIMORPHOPALPA*, A NEW GENUS OF TORTRICID  
MOTHS FROM CENTRAL AND SOUTH AMERICA  
(LEPIDOPTERA: TORTRICIDAE: EULIINI)**

JOHN W. BROWN

Systematic Entomology Laboratory, PSI, Agricultural Research Service,  
U.S. Department of Agriculture, % National Museum of Natural History,  
Washington, D.C. 20560-0168

*Abstract.*—*Dimorphopalpa*, NEW GENUS, is described from Central and South America. Five species are recognized: *D. albopunctana*, NEW SPECIES, from Costa Rica and Venezuela; *D. striatana*, NEW SPECIES, from Costa Rica and Venezuela; *D. striatanoides*, NEW SPECIES, from Ecuador and Colombia; *D. teutoniana*, NEW SPECIES, from Brazil (type species); and *D. xestochalca* (Meyrick), NEW COMBINATION, from Colombia. Putative synapomorphies for species of the new genus include the following: 1) sexually dimorphic labial palpi; those of the male are moderate in length while those of the female are exceedingly elongate; 2) male genitalia with a pair of unique, sclerotized, ventrally projecting extensions of the tegumen between the base of the uncus and base of the gnathos; and 3) short, rounded valvae. *Dimorphopalpa* appears to be most closely related to *Uncicida* Razowski, with which it shares similar processes from the gnathos and a pair of lateral, rounded structures distally on the caulis of the aedeagus that represent the point of attachment to the juxta.

*Key Words.*—Insecta, Lepidoptera, Tortricidae, Tortricinae, Euliini, *Dimorphopalpa*, Neotropics.

Sexual dimorphism in the tortricid tribe Euliini (Tortricinae) usually is restricted to slight differences in forewing length, subtle differences in intensity and definition of forewing pattern, and antennal cilia length. In addition, males of many genera possess a distinctive foreleg hairpencil (Brown 1990a). During continuing studies on the phylogeny and taxonomy of Neotropical Euliini (Brown 1989, 1990a, b, 1991a, b, 1998; Brown & Powell 1991), I discovered a small, homogeneous group of species that exhibit conspicuous sexual dimorphism in the length of the labial palpi and a slight difference in forewing shape. Males have moderate, weakly upturned labial palpi and a moderately broad forewing (length ca. 2.6 times width). In contrast, females have exceptionally elongate, porrect labial palpi and a slightly more slender forewing (length ca. 2.7–2.8 times width); females also have a slightly greater forewing length. The sexes can be associated by forewing pattern, although that of the male is slightly less defined in some species, and by the sympatry of males and females of similar phenotype. *Dimorphopalpa*, new genus, is described to accommodate this group of species which includes "*Tortrix*" *xestochalca* Meyrick and four previously undescribed species.

The description of *Dimorphopalpa* brings to 80 the number of described Neotropical genera in Euliini (Powell, Razowski & Brown 1995). An additional 50 or so described species that lack meaningful generic assignments also are included in the tribe (Brown 1989, Powell, Razowski & Brown 1995), and a large number of undescribed species are present in collections worldwide. The tribe may be the most speciose and diverse group of Neotropical Tortricidae.

MATERIALS AND METHODS

Material for this study was acquired from the following institutions: National Museum of Natural History (USNM), Smithsonian Institution, Washington, D.C.,

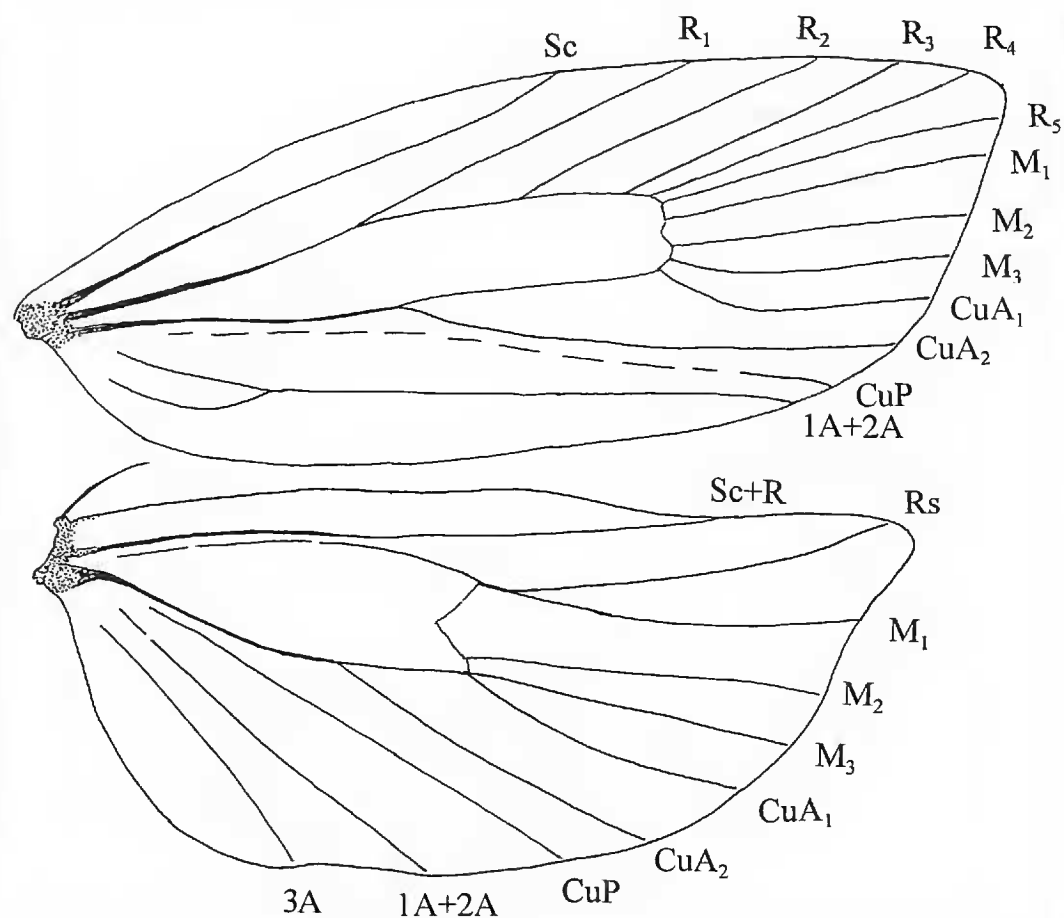


Figure 1. Wing venation of *Dimorphopalpa teutoniana*.

United States; The Natural History Museum (BMNH), London, England; Essig Museum of Entomology (UCB), University of California, Berkeley, California, United States; Instituto Nacional de Biodiversidad (INBio), Santo Domingo, Heredia, Costa Rica; and Vitor Becker personal collection, Planaltina, Brazil (VBC). A total of 98 specimens was examined.

Dissection methodology follows that presented in Brown and Powell (1991). Forewing measurements were made using an ocular micrometer mounted in a dissecting microscope. Terminology for wing venation and genitalic structures follows Horak (1984). Abbreviations and symbols are as follows: FW = forewing; HW = hindwing; DC = discal cell;  $n$  = number of specimens examined or measured; ca. = circa (approximately);  $\bar{x}$  = mean.

#### SYSTEMATICS

##### *Dimorphopalpa* J. Brown, NEW GENUS

*Type Species.*—*Dimorphopalpa teutoniana* J. Brown, NEW SPECIES.

*Head.*—Frons smooth, sparse-scaled below mid-eye, rough-scaled above; overhanging tuft of scales from vertex. Antennal cilia in male ca. 1.25 times width of flagellomere; cilia in female ca. 0.1 times width of flagellomere; antenna pale tan with pale yellow scales. Labial palpus (segments II and III combined) ca. 1.5 times horizontal diameter of compound eye in male, ca. 3.0 times horizontal diameter of compound eye in female; segment II expanded distally by scaling, slightly curved; segment III about one-third as long as II, partially exposed. Maxillary palpus rudimentary. Ocelli moderate to small. Chaetosema present. Proboscis present, presumably functional. Thorax: Smooth-scaled, without upraised tufts. Male without foreleg hairpencil. Forewing (Fig. 1): Length ca. 2.6 times width in male, 2.7–2.8 times width in female; length of DC 0.64–0.65 FW length; width

of DC 0.13–0.14 its length; CuA<sub>2</sub> originates 0.54–0.58 along length of DC; all veins separate beyond DC; R<sub>4</sub> to costa, R<sub>5</sub> to termen; CuP present at margin; M-stem and chorda absent; costal fold absent in male. Hindwing: Sc+R and Rs separate; Rs and M<sub>1</sub> closely approximate at base; M<sub>3</sub> and CuA<sub>1</sub> connate; CuP present. Abdomen: Dorsal pits absent; no modified corethrogyne scaling in female. Male genitalia: Tegumen short, extremely broad, rounded dorsally, with a pair of slender, elongate, free, ventrally projecting extensions between base of uncus and base of gnathos; anterodorsal suture of lateral halves of tegumen obsolete. Uncus well developed, variable, stout and straight, deflexed, or flared and enlarged submesally. Socius moderately large, narrow, pendant, with fine long scales. Gnathos smooth, highly modified; each arm with a large, lateral, distally attenuate projection and a subapical lobelike process; mesal junction of arms weakly sclerotized, short, rounded, upturned. Transtilla a simple, narrow, slightly arched, non-dentate band. Valva short, broad, rounded apically; sacculus weakly developed; costa not or only weakly sclerotized. Pulvinus absent. Neither hamus nor subscaphium developed. Juxta an irregular, somewhat triangular plate. Aedeagus short, stout; caulis with a pair of rounded lateral processes distally; vesica with lines of small, beadlike scobination; cornuti absent. Female genitalia: Papillae anales simple. Apophyses posteriores ca. 2 times length of apophyses anteriores. Sterigma a weakly sclerotized, ventrally bilobed pocket; ostium at saddle between lobes. Ductus bursae short, without distinct junction between ductus and corpus. Corpus bursae simple, elongate; spiculae and signa lacking. Ductus seminalis from corpus bursae near junction of corpus and ductus bursae.

*Distribution and Biology.*—*Dimorphopalpa* is known from Costa Rica south to Bolivia, and east to southeastern Brazil. The early stages are unknown.

*Diagnosis.*—Species of *Dimorphopalpa* feature a fawn brown ground color with a variably developed forewing pattern consisting of one or more diagonal fasciae, sometimes less defined in the male. *Dimorphopalpa* can be distinguished from all other genera in Euliini (except *Strophotina* Brown) by the conspicuously dimorphic labial palpi, i.e., moderate in length in the male, extremely elongate in the female. Among previously described genera, only *Strophotina* Brown has sexually dimorphic labial palpi (Brown 1998). It is likely that this character has arisen independently in the two genera because *Strophotina* and *Dimorphopalpa* have little else in common. Although male secondary sex structures must be used with caution in defining phylogenetic relationships because they may be evolutionarily more labile than other morphological features, dimorphism in the labial palpi in *Dimorphopalpa* apparently is consistent within the genus, and as corroborated by other morphological characters cited below, represents one of several putative apomorphies for the genus.

Male genitalia of *Dimorphopalpa* are characterized by a short, broad, rounded tegumen and short, rounded valvae. Putative synapomorphies for the included species include a pair of slender, ventrally projecting extensions of the tegumen between the base of the uncus and the base of the gnathos, and the short, rounded valva. Female genitalia are moderately uniform within the genus; the sterigma always consists of a simple, ventrally bilobed pocket. On the basis of characters of the male genitalia, *Dimorphopalpa* appears to be most closely related to *Uncicida* Razowski. Putative synapomorphies for the two genera include the elongate, distally attenuate, lateral projection from the gnathos arm and a pair of

lateral, rounded structures distally on the caulis of the aedeagus; both genera lack a male foreleg hairpencil. The female genitalia of *Dimorphopalpa* are most similar to those of *Bonagota* Razowski and *Apotomops* Powell in the development of the sterigma as a simple bilobed pocket. However, *Dimorphopalpa* differs from the latter two genera in features of the male genitalia, wing venation, dimorphic palpi, and length of the antennal cilia. The female of *Uncicida* is unknown, hence no comparisons of female genitalic structures or sexual dimorphism can be made.

The ventrally projecting extensions of the tegumen of *Dimorphopalpa* have nothing in common with the hami of Chlidanotinae. The latter structures arise at or just below the base of the uncus near the dorsum of the tegumen, and are free, digitate, movable processes. In contrast the structures in *Dimorphopalpa* are extensions of the tegumen, and are rigid and inflexible.

*Etymology*.—The generic name refers to the sexual dimorphism in length of the labial palpi.

#### KEY TO THE KNOWN SPECIES OF *DIMORPHOPALPA*

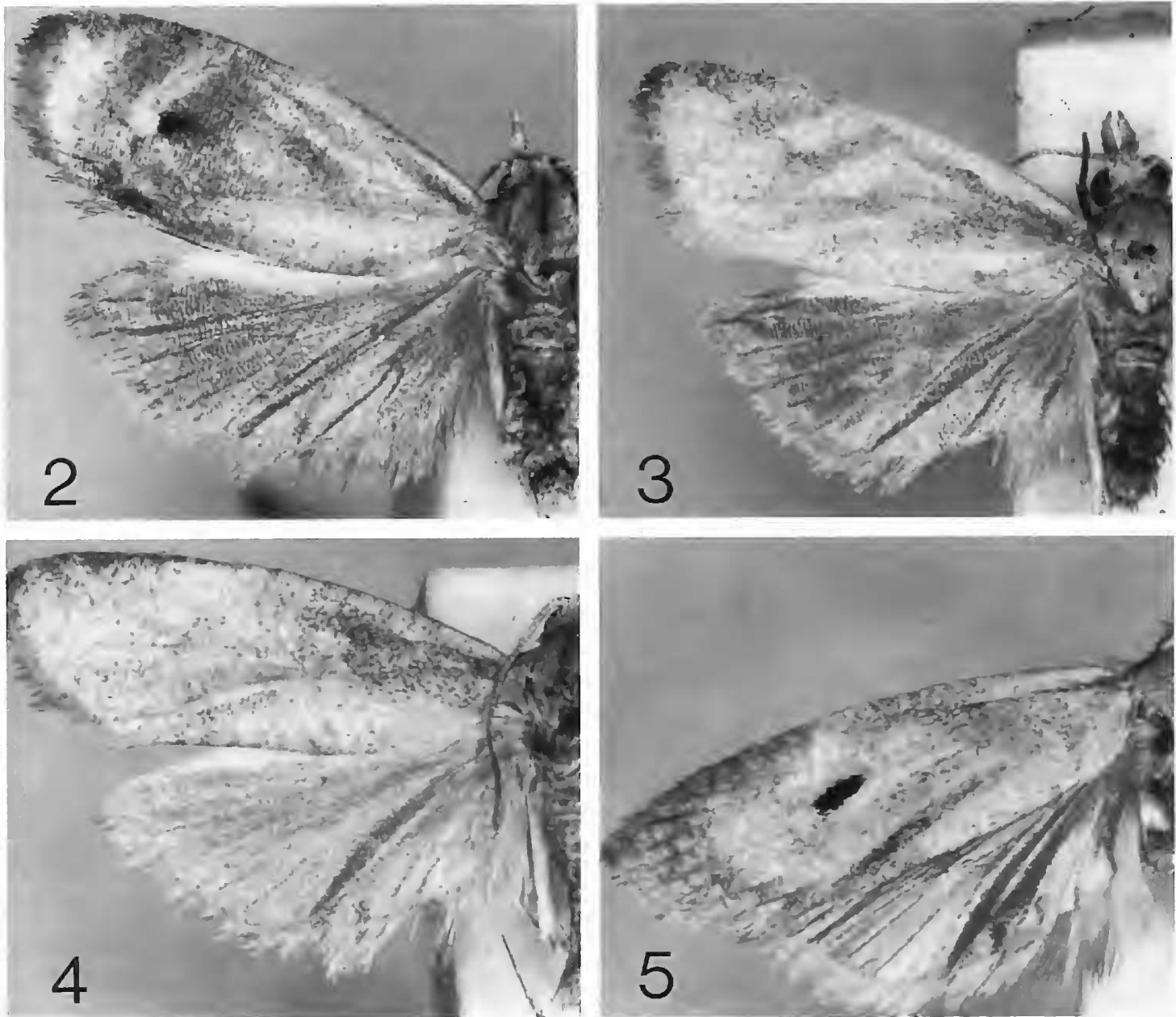
1. FW with distinct black-brown spot or dash near apex of discal cell (Figs. 2 and 5) ..... 2
- 1'. FW lacking distinct black-brown spot or dash near apex of discal cell (Figs. 3 and 4) ..... 3
2. FW with small white spot adjacent to black-brown spot near the apex of discal cell (Fig. 2) ..... *albopunctana*
- 2'. FW with a slender dark dash near apex of the discal cell (Fig. 5) ..... *teutoniana* (in part)
3. FW with three distinct parallel diagonal brown lines extending tornad from near costa (Fig. 3) ..... 4
- 3'. FW with fewer than three diagonal brown lines (Fig. 5) ..... 5
4. FW ground color brown ..... *striatanoides*
- 4'. FW ground color pale fawn ..... *striatana*
5. Male ..... 6
- 5'. Female ..... 7
6. FW length less than 8.0 mm; known only from southeastern Brazil (Fig. 5) ..... *teutoniana* (in part)
- 6'. FW length greater than 9.0 mm; known only from Colombia .. *xestochalca*
7. FW with at least one distinct diagonal brown line extending tornad from near costa ..... *teutoniana* (in part)
- 7'. FW lacking distinct diagonal line(s), usually with a small ill-defined brown blotch near apex of discal cell; unassociated females from Costa Rica and Bolivia ..... *xestochalca* or other spp. (see Remarks under *D. xestochalca*)

#### *Dimorphopalpa albopunctana* J. Brown, NEW SPECIES

(Figs. 2, 6, 10)

*Types*.—Holotype, male; data: VENEZUELA. ARAGUA: Rancho Grande, 1100 m, 16–19 Jan 1966, S. & W. Duckworth; deposited in USNM. Paratypes: COSTA RICA. CARTAGO PROVINCE: Rio Aquiares, 9 km NW Turrialba, nr. Santa Cruz, 1500 m, 1 ♀, 15 May 1985 (J. Powell & P. Opler, UCB). PUNTARENAS PROV-



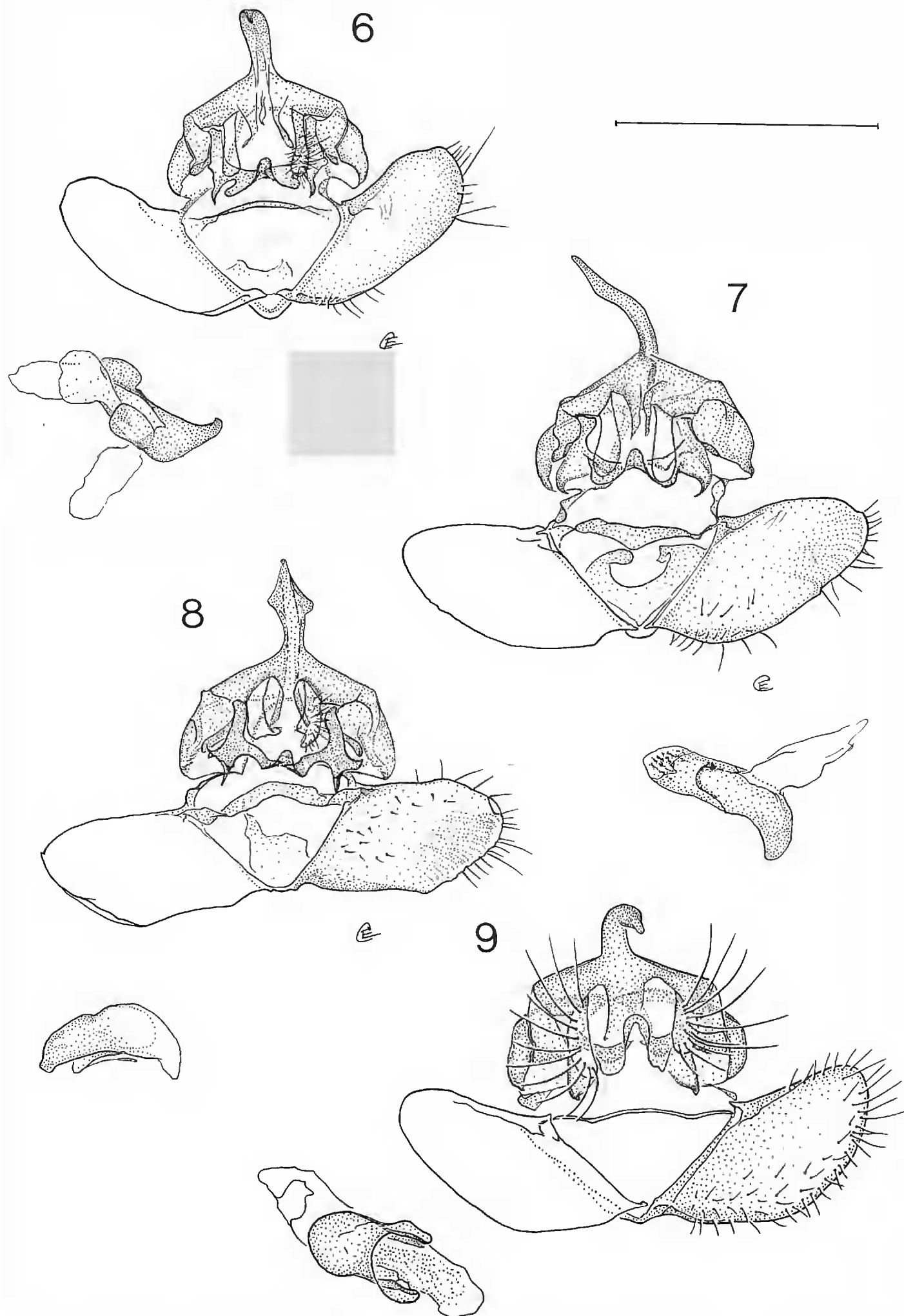


Figures 2–5. Adults of *Dimorphopalpa*. 2. *D. albopunctana*, female paratype, Costa Rica; 3. *D. striatana*, male paratype, Cost Rica; 4. *D. teutoniana*, male paratype, Brazil; 5. *D. teutoniana*, female paratype, Brazil.

*INCE*: Monteverde, 1300 m, 1♂, 17–20 May 1985, blacklight (J. Powell & P. Opler, UCB); Est. La Casona, 1520 m, 1♂, 1♀, Aug 1992, 1♂, Jul 1993, 1♂ Mar 1991 (N. Obando, INBio); Finca Cafrosa, Est. Las Mellizas, P. N. Amistad, 1300 m, 1♂, Oct 1989, 1♀ Oct 1990, 1♂, Nov 1990 (M. Ramirez & G. Mora, INBio). *VENEZUELA. ARAGUA*: Rancho Grande, 1100 m, 1♂, 1♀, 16–23 Oct 1966 (S. S. & W. D. Duckworth, USNM), 1♂, 1–7 Aug 1967 (R. Poole, USNM), 1♀, 30–31 Mar 1978 (J. Heppner, USNM).

*Description*.—Male. FW length 6.5–7.0 mm ( $\bar{x}$  = 6.6;  $n$  = 5). Head: Frons pale yellow-tan. Labial palpus pale whitish tan mesally, tan laterally. Thorax: Yellow-tan. Forewing: Pale brown, dorsum lighter, fawn brown in basal two-thirds; terminal area with diffuse whitish band extending to costa just before apex; apex of DC with black-brown spot bordered distally by a white spot roughly equal in size; faint whitish streak from latter white spot curving to costa ca. two-thirds distance from base to apex. Fringe pale whitish tan. Hindwing: Uniform pale gray-brown. Fringe pale whitish tan. Genitalia: As in Fig. 6 (drawn from JWB slide no. 264, Monteverde, Costa Rica;  $n$  = 3). Uncus relatively stout, with short attenuate tip. Gnathos with distal process oblong, lateral process elongate, spinelike, the processes together forming a somewhat chelate projection. Socius, transtilla, and valva as described for genus. Aedeagus short with strongly curved, attenuate phallobase.

*Female*.—FW length 7.5–8.5 mm ( $\bar{x}$  = 8.0;  $n$  = 4). As described for male (Fig. 2). Genitalia: As



Figures 6–9. Male genitalia of *Dimorphopalpa*; valvae spread, aedeagus removed. 6. *D. albopunctana*; 7. *D. striatana*; 8. *D. teutoniana*; 9. *D. striatanoides*. Scale bar = 1.0 mm.

in Fig. 10 (drawn from JWB slide no. 459, Cartago Province, Costa Rica;  $n = 3$ ). Sterigma a deeply bilobed pocket ventrally, with lateral edge of each lobe extending nearly to posterior lip of sterigma as sclerotized line. Corpus and ductus as described for genus.

*Diagnosis.*—*Dimorphopalpa albopunctana* can be distinguished superficially from its congeners by the small black-brown spot and adjacent white spot near the apex of the forewing discal cell. The male genitalia are most similar to *D. striatana*; in *D. albopunctana* the uncus is relatively straight rather than deflexed subapically, and the lateral processes of the gnathos are narrow and spinelike rather than broad and curved (see Figs. 6 and 7). Autapomorphies for *D. albopunctana* include the shape of the gnathos and the deeply bilobed sterigma.

*Etymology.*—The specific epithet refers to the white spot on the forewing.

*Dimorphopalpa striatana* J. Brown, NEW SPECIES  
(Figs. 3, 7, 11)

*Types.*—Holotype, male; data: VENEZUELA. ARAGUA: Rancho Grande, 1100 m, 21–25 Jan 1966, S. & W. Duckworth; deposited USNM. Paratypes. COSTA RICA. CARTAGO PROVINCE: Ref. Nac. Fauna Silv. Tapanti, 1250 m, 2♂♂, 1♀, Nov 1991 (G. Mora, INBio); P[arque] N[acional] Tapanti, A. C. Amistad, 1150 m, 1♂, Jan 1994 (G. Mora, INBio). PUNTARENAS PROVINCE: Est. Biol. Las Alturas, Coto Brus, 1500 m, 1♀, Aug 1991 (M. Ramirez, INBio); Finca Cafrosa, Est. Las Mellizas, P. N. Amistad, 1♂, Oct 1989 (M. Ramirez & G. Mora, INBio). VENEZUELA. ARAGUA: Rancho Grande, 1100 m, 1♂, 2♀♀, 8–14 Aug 1967 (R. Poole, USNM).

*Description.*—Male. FW length 7.5–7.8 mm ( $\bar{x} = 7.6$ ;  $n = 4$ ). Head: Frons pale yellow-tan. Labial palpus pale whitish tan mesally, tan laterally. Thorax: Pale tan-yellow. Forewing (Fig. 3): Fawn brown with faint, indistinct, slightly darker mottling; three parallel diagonal brown fasciae extending from near costa to near tornus; apex with diffuse brown patch along costa. Fringe yellow-tan. Hindwing: Uniform light gray-brown. Fringe pale whitish tan. Genitalia: As in Fig. 7 (drawn from INBio no. 331353, Cartago Province, Costa Rica;  $n = 2$ ). Uncus deflexed dorsally in apical one-fourth, with attenuate apex. Gnathos with subapical process rounded, lobelike; lateral process broad at base, attenuating into elongate curved spine. Socius, transtilla, and valva as described for genus. Aedeagus short, stout, curved basally.

*Female.*—FW length 8.2–10.0 mm ( $\bar{x} = 9.1$ ;  $n = 4$ ). As described for male except forewing pattern more well defined. Genitalia: As in Fig. 11 (drawn from USNM slide no. 69506, Rancho Grande, Venezuela;  $n = 2$ ). Sterigma simple, a weakly sclerotized, shallow, ventrally bilobed pocket. Ductus and corpus as described for genus.

*Diagnosis.*—*Dimorphopalpa striatana* is superficially most similar to *D. striatanoides* in the presence of three parallel diagonal lines of the forewing; however, it has a considerably lighter ground color. The male genitalia can be distinguished from *D. striatanoides* by the broader, more strongly curved lateral process of the gnathos. The female genitalia of *D. striatana* can be distinguished from its congeners by the extremely shallow bilobed process of the sterigma. Autapomorphies for *D. striatana* include the shape of the lateral and subapical processes of the gnathos and the deflexed tip of the uncus.

*Etymology.*—The specific epithet refers to the fasciae of the forewing.

*Dimorphopalpa striatanoides* J. Brown, NEW SPECIES  
(Figs. 9 and 13)

*Types.*—Holotype, male; data: ECUADOR. CARCÌ: Maldonado, 2200 m, 9–11 Jan 1993, V. Becker; deposited VBC. Paratypes. COLOMBIA. MAGDALENA:

San Pedro de la Sierra, Sierra Nevada de Santa Marta, 1500 m, 1♂, 21–23 Aug 1973 (BMNH). ECUADOR. *CARCÍ*: Maldonado, 2200 m, 1♂, 2♀♀, 29–11 Jan 1993 (V. Becker, VBC).

*Description*—Male. FW length 6.0–7.3 mm ( $\bar{x}$  = 6.5;  $n$  = 3). Head: Frons pale yellow-tan. Labial palpus pale whitish tan mesally, tan laterally. Thorax: Pale tan-yellow. Forewing: Light brown with three parallel diagonal darker brown fasciae extending from near costa to near tornus; apex with diffuse brown patch along costa. Fringe yellow-tan. Hindwing: Uniform light gray-brown. Fringe pale whitish tan. Genitalia: As in Fig. 9 (drawn from JWB slide no. 1096, Ecuador;  $n$  = 3). Uncus weakly deflexed dorsally in apical one-fourth, with attenuate apex. Gnathos with subapical process rounded, lobelike; lateral process broadest at base, weakly curved, attenuating into elongate thorn. Socius, transtilla, and valva as described for genus. Aedeagus short, stout, only slightly curved basally.

*Female*.—FW length 8.5–8.7 mm ( $\bar{x}$  = 8.6;  $n$  = 2). As described for male. Genitalia: As in Fig. 13 (drawn from JWB slide no. 1097, Ecuador;  $n$  = 2). Sterigma with a weakly sclerotized, shallow, ventrally bilobed pocket; a subrectangular, weakly sclerotized area posterad of ostium. Ductus and corpus as described for genus.

*Diagnosis*—*Dimorphopalpa striatanoides* is most similar to *D. striatana*; the two are nearly indistinguishable superficially, although the ground color of the forewing of *D. striatanoides* is darker than that of *D. striatana*. Male genitalia can be distinguished by features described above in the diagnosis of *D. striatana*. The female genitalia of *D. striatanoides* are unique in the genus in the possession of a subrectangular sclerotized region of the sterigma immediately posterad of the ostium. Autapomorphies for *D. striatanoides* include the shape of the lateral processes of the gnathos and the sclerotized region of the sterigma.

*Remarks*.—In the specimen from Colombia the lateral arms of the gnathos are slightly broader than those in specimens from Ecuador. However, in all other features, both superficial and genitalic, the specimens are nearly identical.

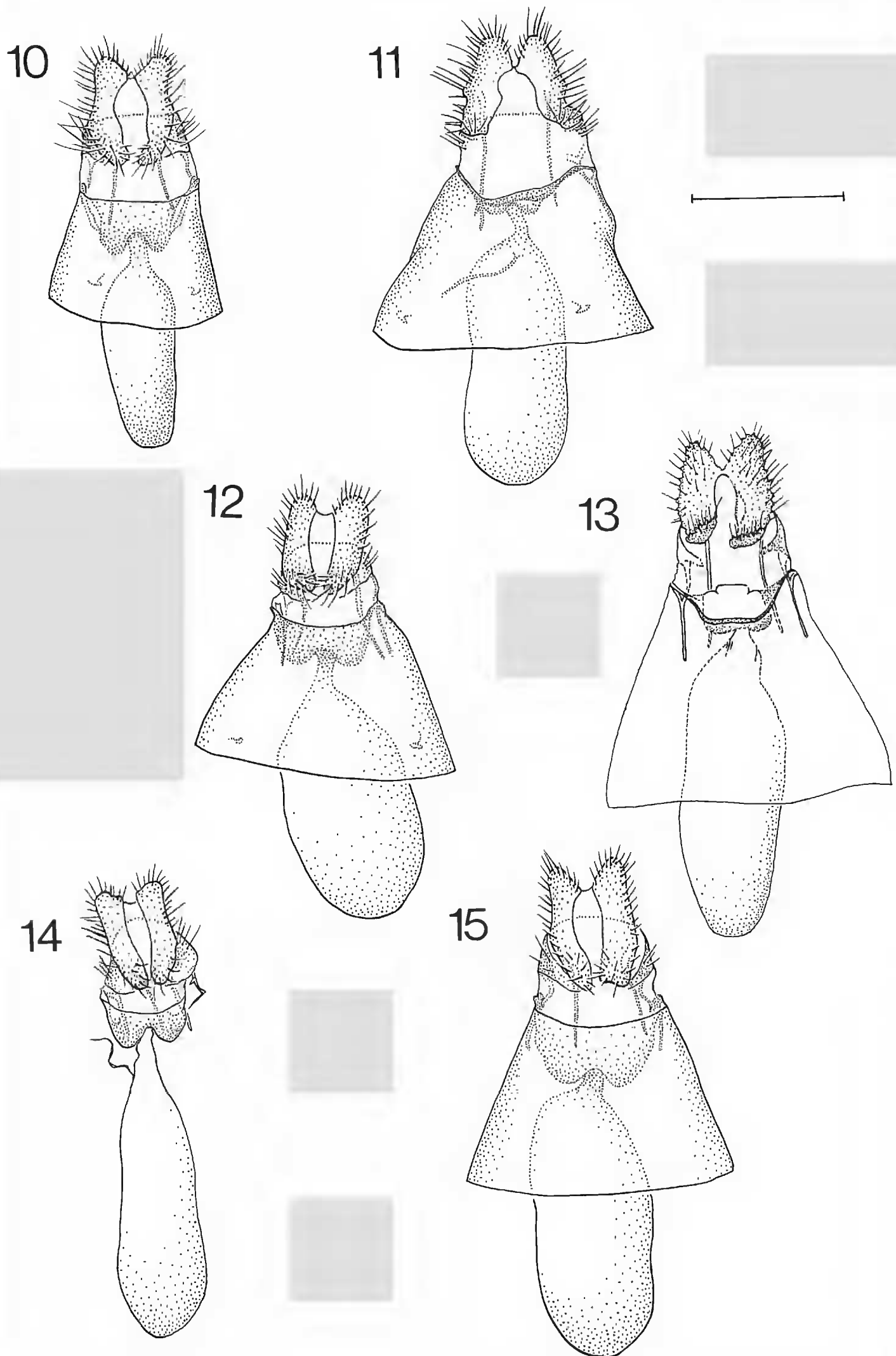
*Etymology*.—The specific epithet refers to the similarity of this species with *D. striatana*.

#### *Dimorphopalpa teutoniana* J. Brown, NEW SPECIES

(Figs. 4, 5, 8, 12)

*Types*.—Holotype, male; data: BRAZIL. SANTA CATARINA: Nova Teutonia, 27°11' S, 52°23' W, 300–500 m, Sep 1963, F. Plaumann; deposited in USNM. Paratypes. BRAZIL. BAHIA: Camaca, 400–700 m, 2♂♂, 21–30 Sep 1991, 1♂, 13–14 Apr 1992 (V. Becker, VBC). MINAS GERAIS: Caraça, 1300, 1♀, 2–4 Jan 1985, 1♀, 1–2 Apr 1992, 1♂, 4 Mar 1993, 2♂♂, 25 Oct 1994 (V. Becker, VBC), PARANÁ: Castro, 1♂, 1898 (E. Jones, BMNH); Curitiba, 920 m, 1♂, 10 Feb 1975, 1♂, Oct 1975 (V. Becker, VBC); Bahado, Quatro Barras, 800 m, 1♀, 12 Apr 1970, 2♀♀, 5 Jun 1970, 1♀, 6 Jun 1970, 1♀, 29 Aug 1970, 1♂, 28 Dec 1970, 1♂, 1♀, 22 May 1971 (Becker & Laroca, VBC); Marumbi, Morretes, 500 m, 1♂, 21 Nov 1970 (Becker & Laroca, VBC). RIO DE JANEIRO: Itatiaia, 1200 m, 2♂♂, 25 Jan 1993, 1♂, 13 May 1996 (V. Becker, VBC); Nova Friburgo, 800 m, 1♂, 22 Jan 1993 (V. Becker, VBC). RIO GRANDE DO SUL: Pinherio, 1♂, 2 Jan 1989 (A. Camargo, VBC). SANTA CATARINA: Nova Teutonia, 27°11' S, 52°23' W, 300–500 m, 2♀♀, Oct 1962, 2♂♂, Aug 1963, 3♂♂, Sep 1970 (F. Plaumann, USNM); Bom Jardim da Serra, 1500 m, 5♂♂, 1♀, 1–4 Oct 1996 (V. Becker, VBC); Joinville, 500 m, 2♀♀, 3 Jan 1989 (V. Becker, VBC); Neu [Nova] Bremen, Rio Laeiss, 1♀, Aug 1931 (F. Hoffmann, BMNH); São Joaquim, 1400 m, 1♂, 1♀, 22–24 Jan 1983 (V. Becker, UCB), 2♂♂, 2♀♀, 22–24 Jan 1983 (V.





Figures 10–15. Female genitalia of *Dimorphopalpa*. 10. *D. albopunctana*, 11. *D. striatana*, 12. *D. teutoniana*, 13. *D. striatanoides*, 14. *D.* species (Bolivia); 15. *D.* species (Costa Rica). Scale bar = 1.0 mm.

Becker, USNM), 7♀♀, 2 Feb 1993, 4♂♂, 1♀, 25 Oct 1995 (V. Becker, VBC). *SAO PAULO*: Campos do Jordao, 1600 m, 1♀, 4 May 1995 (V. Becker, VBC); Sao Paulo, 1000 m, 2♂♂, 29 Jan 1993 (V. Becker, VBC). Unknown State: Agulhas Negras, NE Cruceiro, 1♂, (B. V. Ridout, BMNH). "Saunders," "Stn. Coll. 1893-134," 1♀ (BMNH).

*Description*.—Male. FW length 7.0–8.0 mm ( $\bar{x}$  = 7.2;  $n$  = 7). Head: Frons pale yellow-tan, whitish gray above. Labial palpus pale whitish tan mesally, tan laterally. Thorax: Pale yellow-tan. Forewing (Fig. 4): Pale cream with light fawn brown reticulation throughout; faint, light brown, diagonal fascia from costa ca. 0.6 distance from base to apex, extending towards tornus; a diffuse, irregular, light brown fascia from costa ca. 0.6 distance from base to apex, extending toward base; a faint longitudinal brown fascia from near base, arching gently toward tornus; flattened, triangular patch along costa in apical region. Fringe off white. Hindwing: Pale gray-brown. Fringe pale whitish tan. Genitalia: As in Fig. 8 (drawn from USNM slide no. 68609, Nova Teutonia, Brazil;  $n$  = 4). Uncus bent near middle with broad lateral flange; attenuate apically. Gnathos with subapical process a weakly protruding nub; lateral process highly variable, truncate or slightly bifurcate terminally. Socius, transtilla, and valva as described for genus. Aedeagus short, stout, only slightly curved basally.

*Female*.—FW length 8.0–10.0 mm ( $\bar{x}$  = 8.7;  $n$  = 9). As described for male but forewing pattern more defined, fasciae considerably darker than ground color; sometimes with distinct black dash near distal end of DC (Fig. 5). Genitalia: As in Fig. 12 (drawn from JWB slide no. 358, Nova Teutonia, Brazil;  $n$  = 1). Sterigma with a pair of weakly sclerotized, rounded pockets ventrally.

*Diagnosis*.—*Dimorphopalpa teutoniana* is superficially most similar to *D. xestochalca* in its poorly developed forewing pattern. The absence of the abdomen of the holotype (and only known specimen) of *D. xestochalca* prevents genitalic comparisons between the two. However, geographical and elevational differences between the type localities (Santa Catarina, Brazil, 500 m vs. Mount Tolima, Colombia, 1800 m) and the difference in forewing length (greater in *D. xestochalca*) suggest that the two are not conspecific. Male genitalia of *D. teutoniana* can be distinguished from other species in the genus by the conspicuous, broad, lateral flange of the uncus. Female genitalia have the bilobed pocket of the sterigma deeper than in either *D. striatana* or *D. striatanoides*, and shallower than in *D. albopunctana*.

*Remarks*.—The genitalia (USNM slide no. 69364) of one of the females from Nova Teutonia are remarkably dissimilar to those of all other *Dimorphopalpa* and appear to be associated incorrectly with the specimen; this specimen is excluded from the type series.

*Etymology*.—The specific epithet is derived from the type locality of Nova Teutonia, Brazil.

#### *Dimorphopalpa xestochalca* (Meyrick), NEW COMBINATION

*Tortrix xestochalca* Meyrick 1926: 248; Clarke 1958: 256 (figure of adult). "Eulia" *xestochalca*; Powell, Razowski & Brown 1995: 146.

*Type*.—Holotype, male; data: COLOMBIA. Tolima Canyon, 5600' [1805 m], Nov 1920; deposited in BMNH.

*Description*.—Male. FW length 9.1 mm ( $n$  = 1). Head: Frons pale whitish tan, above with gray-tipped, pale whitish tan scales. Labial palpus pale whitish yellow mesally, fawn brown laterally. Thorax: Gray and dingy white. Forewing: Pale cream with light fawn brown reticulation; a pair of indistinct brown fasciae from costa ca. 0.5 distance from base to apex, one extending distad half way to termen and the other extending basad to near base; a faint longitudinal brown fascia from near mid-base, arching gently toward tornus; flattened triangular-shaped patch along costa in apical region.

Fringe pale gray-yellow. Hindwing: Pale gray-brown. Fringe pale whitish-yellow. Genitalia: Single specimen lacks abdomen.

*Female*.—Unknown.

*Diagnosis*.—The holotype of *D. xestochalca* is nearly identical to males of *D. teutoniana* in forewing color, pattern, and shape; size and scaling of the labial palpus; and length of the antennal cilia, providing strong evidence for the inclusion of *xestochalca* in *Dimorphopalpa*. The absence of an abdomen prevents genitalic comparisons. Although it is possible that *D. teutoniana* is conspecific with *D. xestochalca*, it is unlikely based on geography and elevation. A single specimen from Colombia (BMNH) also could represent *D. xestochalca*, but its forewing pattern matches *D. striatanoides* and not *D. xestochalca*; hence, it is included as a paratype of the former. Female genitalia of unassociated specimens from Bolivia (Fig. 14) and Costa Rica (Fig. 15) are illustrated. One of these may represent the opposite sex of the holotype of *D. xestochalca*; however, both have a considerably larger forewing length than the latter. Until additional material becomes available from Colombia, these females are treated as *Dimorphopalpa* spp.

#### ACKNOWLEDGMENT

I thank the following for allowing me to examine material in their care: the late J. F. G. Clarke (USNM); J. A. Powell (UCB); K. R. Tuck (BMNH); E. Philips (INBio); and D. H. Janzen, University of Pennsylvania, whose material is deposited at INBio. In particular, I thank V. O. Becker (VBC), Planaltina, Brazil, whose material represents over half of the specimens examined. I thank Richard Brown, Mississippi State University; Jerry A. Powell, University of California, Berkeley; Marianne Horak, CSIRO, Canberra, Australia; Andrew Jensen, USDA, Systematic Entomology Laboratory, Beltsville, Maryland; David Smith, USDA, Systematic Entomology Laboratory, Smithsonian Institution, Washington, D.C.; and one anonymous reviewer for helpful comments and suggestions on the manuscript. Susan Escher, Front Royal, Virginia, provided the drawings of the genitalia, except for Fig. 13.

#### LITERATURE CITED

- Brown, J. W. 1989. Generic reassignments for Neotropical tortricid moths (Tortricidae). *J. Lepid. Soc.*, 43: 313–322.
- Brown, J. W. 1990a. Taxonomic distribution and phylogenetic significance of the male foreleg hair-pencil in the Tortricinae (Lepidoptera: Tortricidae). *Entomol. News*, 101: 109–116.
- Brown, J. W. 1990b. Review of *Hynhamia* Razowski (Lepidoptera: Tortricidae) and critique of its phylogenetic position. *Entomol. Scand.*, 21: 321–328.
- Brown, J. W. 1991a. *Punctapinella*, a new genus for three previously known and three new species from South America (Lepidoptera: Tortricidae). *Contrib. Sci.*, 423: 1–9.
- Brown, J. W. 1991b. Systematic revision of *Paraptila* Meyrick (Tortricidae). *J. Lepid. Soc.*, 44: 257–272.
- Brown, J. W. 1998. Description of *Strophotina*, new genus, from Central and South America (Lepidoptera: Tortricidae). *Proc. Entomol. Soc. Washington*, 100: 43–49.
- Brown, J. W. & J. A. Powell. 1991. Systematics of the *Chrysoxena* group of genera (Lepidoptera: Tortricidae: Euliini). *Univ. Calif. Publ. Entomol.*, 111. 87 pp. + figs.
- Clarke, J. F. G. 1958. Catalogue of the type specimens of Microlepidoptera in the British Museum (Natural History) described by Edward Meyrick. Volume 3. British Museum (Natural History), London.

- Horak, M. 1984. Assessment of taxonomically significant structures in Tortricinae (Lep., Tortricidae). *Mitt. Schweiz. Entomol. Gesell.*, 57: 3–64.
- Meyrick, E. 1926. *Exotic Microlepidoptera* 3: 289–320. Marlborough, England.
- Powell, J. A., J. Razowski & J. W. Brown. 1995. Tortricidae: Tortricinae, Chlidanotinae, pp. 138–151. *In* Heppner, J. B. (ed.). *Atlas of Neotropical Lepidoptera, Checklist. Part II: Hyblaeoidea - Pyraloidea - Tortricoidea*. Assoc. Trop. Lepid., Gainesville, Florida.

*Received 14 Apr 1998; accepted 7 Dec 1998.*